

Appl. No. : 10/729,017  
Filed : December 5, 2003

## AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Currently amended) A speaker system, comprising:  
a primary enclosure having at least one wall forming side surfaces of said primary enclosure and surrounding a volume of air, said primary enclosure having an open upper end and a sealed lower end;  
a speaker driver mounted to a wall of the primary enclosure such that a front face of the speaker driver is external to the primary enclosure and a rear face of the speaker driver is internal to the primary enclosure;  
a port section comprising  
a duct extending external to said primary enclosure, said duct enclosing a volume of air which is coupled to the volume of air of the primary enclosure to increase internal volume of the speaker system,  
a port opening coupling air from inside said duct to air external to the speaker system,  
wherein said port section comprises dimensions designed such that select frequency components exiting the speaker system through the port section are in phase with corresponding frequency components produced by said speaker driver to extend low frequency response of said speaker system; and  
a transition region coupling the primary enclosure to the port section such that air in the primary enclosure is coupled to air external to the speaker system via the port opening.The speaker system of Claim 1,  
wherein the transition region comprises a transition section connected to said open upper end of said primary enclosure and extending external to the primary enclosure, the transition section tapering relative to a side surface of the primary enclosure defining a continuous transition from the primary enclosure to the port section and sized to allow the select frequency components to couple to said port section.

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3. (Currently amended) The speaker system of Claim 42, wherein the transition region comprises:

a first end having a first end opening coupled to air within the primary enclosure volume, the first end opening having dimensions substantially equal to an internal dimension of the primary enclosure; and

a second end coupled to the first end and also coupled to the port section, the second end having a second end opening, the second end opening having dimensions substantially equal to an internal dimension of the port opening.

4. (Currently amended) The speaker system of Claim 42, wherein the primary enclosure comprises a cylindrical enclosure, and wherein said duct comprises a cylindrical duct.

5. (Cancelled)

6. (Cancelled)

7. (Currently amended) The speaker system of Claim 42, wherein said speaker driver is mounted to a wall forming a side surface of the primary enclosure such that a vertical axis through the centerline of a cross-section of the port opening is substantially perpendicular to an axis normal to the front face of the speaker driver.

8. (Currently amended) The speaker system of Claim 42, wherein the speaker driver comprises a full range speaker driver having a free air resonance less than 420 Hz and a diaphragm dimension less than 35 cm.

9. (Previously presented) A speaker system, comprising:

a substantially cylindrical primary enclosure comprising a substantially cylindrical wall defining a primary enclosure volume, said primary enclosure having an open end and a closed end;

a speaker driver mounted to the cylindrical wall of the primary enclosure, a front face of the speaker driver positioned external to the primary enclosure and a rear face of the speaker driver positioned internal to the primary enclosure;

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a substantially cylindrical port section having first and second open ends, comprising

a substantially cylindrical duct extending external to said primary enclosure, said duct enclosing a volume of air which is coupled to air in the primary enclosure volume to increase internal volume of the speaker system,

a port opening on one end of said port section coupling air from inside said duct to air external to the speaker system,

wherein said port section is tuned to a selected frequency to extend low frequency response of said speaker driver; and

a transition section having a first open end coupled to the open end of the primary enclosure and a second open end substantially opposite the first open end, the second open end coupled to the end of the port section opposite the port opening, said transition section tapering from a dimension of said primary enclosure to a dimension of said duct.

10. (Cancelled)

11. (Cancelled)

12. (Previously presented) The speaker system of Claim 9, wherein an axis normal to the face of the of the speaker driver is substantially perpendicular to a vertical axis through the center of a cross-section of the port section.

13. (Previously presented) The speaker system of Claim 9, wherein dimensions of the first open end of the transition section substantially match dimensions of the open end of the primary enclosure, said transition section tapering relative to the wall of the primary enclosure to define a continuous transition from the primary enclosure to the port section, and wherein said transition section is sized to allow selected frequency components to couple to said port section.

14. (Previously presented) The speaker system of Claim 9, wherein dimensions of the second open end of the transition section substantially match dimensions of the end of the port section opposite the port opening, and wherein said duct comprises an elongated cylindrical duct.

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15. (Previously presented) The speaker system of Claim 9, wherein the primary enclosure further comprises a body portion of a bottle.

16. (Original) The speaker system of Claim 9, wherein the port section comprises a neck of a bottle.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Previously presented) A speaker system, comprising:

a substantially cylindrical primary enclosure having an open end and a closed end and having diameter of less than 30 cm, said primary enclosure having at least one wall forming side surfaces and surrounding a primary enclosure volume ;

a full range speaker driver mounted to a side surface of the primary enclosure with an axis of the speaker driver mounted less than 7 cm above the closed end, a front face of the speaker driver positioned external to the primary enclosure and a rear face of the speaker driver positioned internal to the primary enclosure;

a substantially cylindrical port section comprising a duct extending external to said primary enclosure, said duct having open ends of less than 2.5 cm diameter, and wherein said port section is tuned to a selected frequency to extend low frequency response of said speaker system; and

a transition section having a first open end coupled to the open end of the primary enclosure and a second open end substantially opposite the first open end, the second open end coupled to the port section, said transition section tapering from a dimension of said primary enclosure to a dimension of said port section.

21. (Original) The speaker system of Claim 20, wherein a diameter of the speaker driver is less than 3 cm.

22. (Previously presented) The speaker system of Claim 9, wherein the port section and the transition section are external to the primary enclosure.

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23. (Previously presented) The speaker system of Claim 9, wherein the speaker driver comprises a full range speaker driver having a free air resonance less than 420 Hz and a diaphragm dimension less than 35 cm.

24. (Previously presented) The speaker system of Claim 9, wherein the first open end of the transition section has about the same diameter as the open end of the primary enclosure.

25. (Previously presented) The speaker system of Claim 9, wherein the first open end of the transition section has about the same diameter as an internal dimension of the primary enclosure.

26. (Previously presented) The speaker system of Claim 9, wherein the transition section comprises a tapered portion of the neck of a bottle.

27. (Previously presented) The speaker system of Claim 9, wherein said port section is tuned to a frequency that is at or below 200 Hz.